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New species and records of Scaritinae from the Himalayas (Coleoptera, Carabidae)

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New species and records of Scaritinae from the Himalayas (Coleoptera, Carabidae). – Five new species of Scaritinae from the Himalayas are described and illustrated: *Haplogaster granulipennis* spec. nov. (Bhutan), *Dyschirius sonamargensis* spec. nov. (Kashmir), *D. (Reicheiodes) convexipennis* spec. nov. (Nepal), *D. (R.) loebli* spec. nov., (Nepal) and *D. (R.) marginicollis* spec. nov. (Nepal). Their relationships to other species are discussed. In addjtion, new records of 21 species of Scaritinae from the Himalayas are given.

Key-words: Coleoptera - Carabidae - Scaritinae - Taxonomy - Himalayas.

INTRODUCTION

Information on material of Himalayan Scaritinae beetles is too scarce for a comprehensive faunal revision. New records and descriptions are rare since Andrewes (1926, 1929, 1930, 1936) with some by Znoiko (1930), Landin (1955), Jedlicka (1964, 1965), Habu (1973), and Casale (1979, 1980).

Examination of undetermined material of Scaritinae from different regions of the Himalayas and from southern feet of these mountain chains revealed new records and five remarkable new species. The specimens had been collected during eight expeditions between 1976 and 1988, performed by the Muséum d'Histoire naturelle, Genève, Staatliches Museum für Naturkunde, Stuttgart[1], and Naturhistorisches Museum Basel. The new species are described and compared to related species. Additional material was studied from five private expeditions, carried out separately by Mr. K. Werner, Peiting near Munich, and Dr. F. Baum, Staufen near Freiburg (both Germany), carried out between 1984 and 1991.

The material at hand consists of 259 specimens belonging to 26 species.

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[1] Results of the Himalaya Expeditions of J. Martens.

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Material is deposited in following collections:

CBA	Collection of author (Denzlingen near Freiburg, Germany)
CBS	Collection Dr. Frank Baum (Staufen near Freiburg, Germany)
MHNG	Muséum d'Histoire Naturelle (Genève, Switzerland)
NHMB	Naturhistorisches Museum Basel (Switzerland)
SMNS	Staatliches Museum für Naturkunde (Stuttgart, Germany)

General distribution are cited from ANDREWES (1929), BÄNNINGER (1937, 1938), KULT (1951), and my own notes, made according to determinations during the past few years.

Haplogaster ovata Chaudoir (Figs 1-4)

1879 *Haplogaster ovatus* Chaudoir, Monogr. des Scaritides (Scaritini). Prem. partie, 22: 150.

M a t e r i a l e x a m i n e d : E. Nepal, Arun Vally, Arunthan Mure, 1300 m, 09.VI.1983. Mure-Chichila, 1800-1900 m, 18.VI.1983; Mure, 2000 m, 02-08.VI.1983, all leg. M. Brancucci (NHMB/CBA); Centr. Nepal, Marsyandi Valley, Khudi, forest, 1500 m, 02.VI.1982, leg. F. Baum (CBS); Nepal, Sankhua Distr., Arun Valley between Mure and Hurure, mixed broad-leaved forest, 2050-2150 m, 09-17.VI.1988, leg. J. Martens & W. Schawaller (SMNS); W. Nepal, Chitre-Tatopani, 1100-2500 m, 11.VI.1984, leg. C.J. Rai (NHMB).

R e m a r k s : The species is distributed in North-East India, Nepal, and Bhutan.

Among these 32 specimens examined (♂ and ♀) some variability could be observed in the base of pronotum (more or less produced), the number of setigerous punctures on the third interval of elytra, and the form and surface of intervals at apex. This seems to be typical for the species and had been reported also by ANDREWES (1929) and BÄNNINGER (1935, 1937).

In addition, it has been observed that in the anterior three-quarters of elytra, the form and surface of intervals do not show this variability. The reticulation between all striae consists of fine isodiametric meshes, the surface is smooth and granulation is only present at base and marginal channel. The whole surface is a little bit dull but not completely; the light still reflects and making the surface therefore a bit shiny.

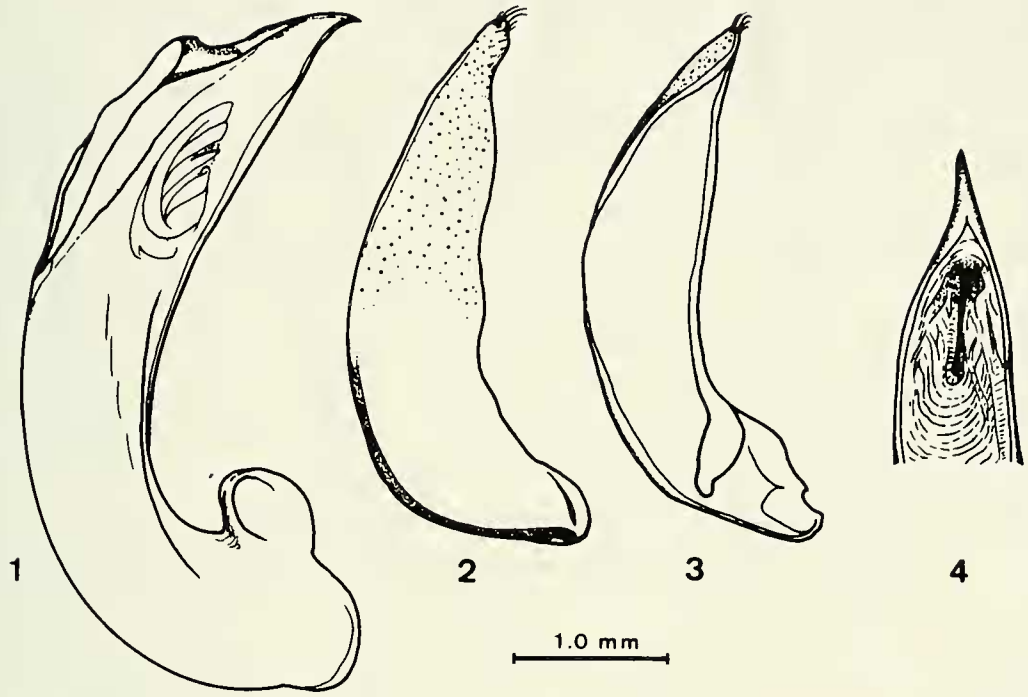
Ala atrophied to minute rudiment. Aedeagus (Figs 1, 4) big, strongly sclerotized, evenly curved at middle, acute and curved at apex (lateral view), nearly straight at apex (dorsal view). Parameres (Figs 2, 3) broad, conspicuous punctures on apical half of dorsal and ventral surface respectively, spatulate at apices. Left paramere twisted at apex.

Haplogaster granulipennis spec. nov. (Figs 5-8)

T y p e m a t e r i a l : Holotype: ♂, Bhutan, Domphu-Gopani, 1400 m, VII-IX.1983, leg. C.J. Rai (NHMB).

DESCRIPTION:

M e a s u r e m e n t s : Length without mandibles 20.7 mm, including opened mandibles 24.4 mm, width 7.5 mm, ratio length/width of pronotum 0.65, ratio length/width of elytra 1.56.



FIGS 1-4

Haplogaster ovata Chaudoir, 1879 - 1) Aedeagus, left lateral view - 2, 3) Right and left paramere; - 4) Apex of aedeagus, dorsal view.

C o l o u r : Black; head and pronotum dull shiny, elytra dull without any lustre; palpi fuscous, apex of four posterior tibiae and tarsi fuscous; ventral surface black.

H e a d : Rectangular, a third wider than long. Anterior margin of clypeus bidentate; clypeal suture distinct in total, some striae laterally to clypeal setigerous punctures and at middle. Supraantennal plates vaulted, smooth, projecting a little laterally as obtuse preocular angles, margined finely from angles to eyes, truncate and unmargined from angles to base of mandibles. Frontal furrows deep, straight, posteriorly reaching level of hind eye margin, converging a little posteriorly, prolonged to neck in some fine converging and diverging longitudinal striae. Frons between frontal furrows with one fine stria parallel to each furrow, thought furrows doubled, nearly smooth; some longitudinal weak striae between frontal furrows and eyes. Genae as long as eyes, not projecting higher than eyes, separated from eyes by a obtuse furrow, second stria-like weak furrow at middle, surface covered with fine isodiametric meshes. Neck with some short irregular striae, very fine isodiametric meshes at sides. Mandibles (opened position) as long as head, strongly curved in apical third, striate with exception of longitudinal field between median and lateral carina, with wide bifid basal tooth each, left one separated from very small apical tooth by deep emargination, right one with conspicuous apical tooth. Mentum covered

densely with granula and fine isodiametric meshes, not sharp but distinctly margined from base to tooth, margin interrupted at apex of lobes, carina of conspicuous tooth prolonged to two-thirds of mentum.

P r o n o t u m : Convex, cyathiform, a seventh wider than head, a third wider than long, nearly as wide as elytra. Sides evenly rounded from anterior angles to knob-like tooth at hind angles, gently rounded to base without angle at tooth. Front angles conspicuous, faintly rounded. Base not produced, nearly straight, margin thickened, crenate. Sides with one anterior and one postangular setigerous puncture. Anterior transverse line distinct, interrupted at middle, broader at sides, joining lateral channel in front angles. Median line conspicuous, passing shortly through anterior transverse line without joining it. Basal foveae clearly visible, densely transversally striate. Basal area flattened, scabrous. Anterior margin covered closely by longitudinally sharp striae. Surface with some fine transverse wrinkles, more distinct at median line, covered in total by fine isodiametric reticulation.

E l y t r o n : Anterior half flattened, convex at side, strongly convex in posterior half; a third longer than width of both elytra, widest shortly behind middle. Side evenly rounded from humeral tooth to apical fourth, more strongly rounded from humeral tooth to base and in apical fourth. Margin reflexed, carinate. Humerus somewhat rounded, humeral tooth conspicuous, formed by thickened margin. Base formed by obtuse rectangular carina, very steeply declivity from carina to pedunculus, small umbilicate area posteriorly to carina. Striae moderately deep, impunctate, 1 to 5 reaching umbilicate area at base, striae 2 and 5, 3 and 4 joining at apex, 6 and 7 shortened apically. Intervals moderately convex, 1 and 2 somewhat flattened. Four to five discal setigerous punctures adjoining stria 3. Surface scabrous, covered by fine isodiametric reticulation, finely granulate in total, more densely at base and in marginal channel; surface absolutely dull, light not reflecting.

A l a : Atrophied to spatulate rudiment of 1.1 mm in length.

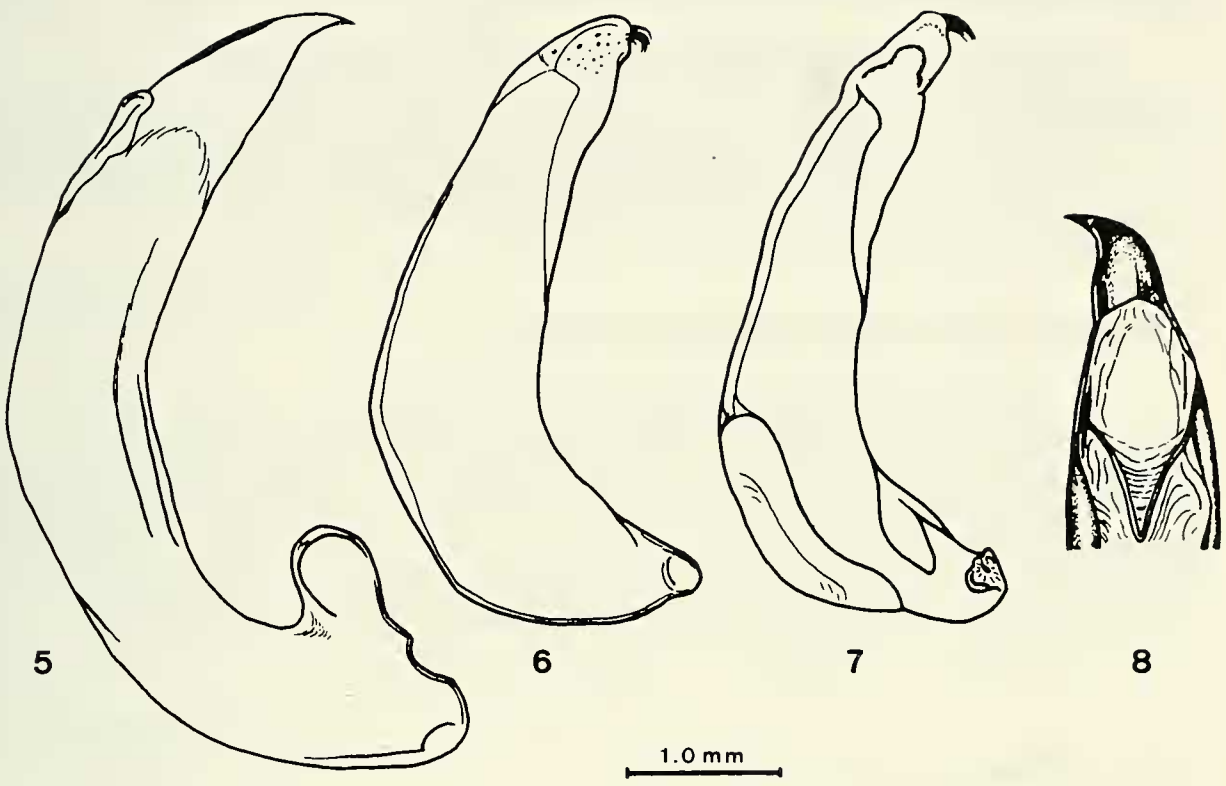
L e g s : Anterior tibia with two lateral preapical denticles, denticulation acute, curved ventrally. Mesotibia with two spurs, apical one elongate, three times longer than width at base, somewhat removed from apex; preapical spur scharp, a little longer than width at base, at some distance from other much smaller lateral denticulation; teeth of lateral denticulation close together, saw-like, each of them shorter than width at base.

A e d e a g u s (Figs 5-8): Big, strongly sclerotized, curvature slightly fractue at middle, acute and curved at apex (lateral view), strongly arcuate at apex (dorsal view). Both parameres big, broad, not spatulate at apex, some punctures on ventral surface of right paramere visible et apex (arrangement see figs. 6, 7).

D e r i v a t i o n o f n a m e : The name refers to the presence of granula within reticulation of elytra.

R e m a r k s : *Haplogaster granulipennis* spec. nov. seems to be closely related to *Haplogaster ovata* Chaudoir 1879. It differs from *H. ovata* in the surface of elytra, mentum, and base of pronotum. Beside this *H. granulipennis* possesses a second spur at mesotibia and the shape of aedeagus and parameres is different.

(It should be mentioned that in ANDREWES (1929) p. 222, Fig. 37 does not give a realistic impression of *Haplogaster ovata* Chaudoir.)



FIGS 5-8

Haplogaster granulipennis spec. nov., holotype. - 5) Aedeagus, left lateral view; - 6, 7) Right and left paramere; - 8) Apex of aedeagus, dorsal view.

Scarites (Parallelomorphus) inconspicuus Chaudoir

1855 *Scarites inconspicuus* Chaudoir, Bull. Soc. Imp. Nat. Moscou, 28 (1): 82.

Material examined: India, Uttar Pradesh, Rishikesh, VII. 1986, leg. K. Werner (CBA).

Remarks: The species is distributed from Northeast India and parts of Central India to Kashmir.

Scarites (Parallelomorphus) indus Olivier

1795 *Scarites indus* Olivier, Ent. Hist. Ins., Paris, III: (36): 9;
1813 *Scarites mancus* Bonelli, Mém. Acad. Sci. Turin, 20: 473;
1921 *Scarites terricola* Andrewes, Rec. Indian Mus., 22: 339.

Material examined: India: Kashmir, Jammu, VII. and VIII. 1986, leg. K. Werner; Uttar Pradesh, Rishikesh, VII. 1986, leg. K. Werner (all CBA).

Remarks: Apparently a very common species, which is distributed from Assam, Sikkim, Nepal to Kashmir, and in whole Central and South India. Recorded in Sri Lanka also.

Scarites (Parallelomorphus) subnitens Chaudoir

1855 *Scarites subnitens* Chaudoir, Bull. Soc. Imp. Nat. Moscou, 28 (1): 87.

M a t e r i a l e x a m i n e d : India, Uttar Pradesh, Rishikesh, VIII. 1984, leg. K. Werner (CBA).

R e m a r k s : The record belongs to the west border of the distribution area. The species occurs in Bruma, northern and middle parts of India and Nepal.

Scarites (Parallelomorphus) punctum Wiedemann

1823 *Scarites punctum* Wiedemann, Zool. Mag., 2 (1): 38;
1855 *Scarites opacus* Chaudoir, Bull. Soc. Imp. Nat. Moscou, 28 (1): 88.

M a t e r i a l e x a m i n e d : Nepal, Dhading Distr., Ankhu Khola Valley, Ankhu Sangu to Sellentar, bank of river, cultivated land, 530-750 m, 26.VI.1983, leg. J. Martens & W. Schawaller (SMNS); India, Uttar Pradesh, Rishikesh, 450 m, 03-10.VII.1988, and VII. 1991, leg. K. Werner; 500 m, 03-10.VII.1988, leg. Richter (all in CBA). W. Nepal, Kashi Distr., Kali Gandaki, Suikhet-Chandrakot, 1000-1600 m, 08.VI.1986, leg. C. Holzschuh (NHMB).

R e m a r k s : The species is distributed in Assam, Bengal, Nepal, and Punjab.

Scarites (Distichus) laticeps Andrewes

1929 *Scarites laticeps* Andrewes, Fauna Brit. Ind., Col.: Carab., I: 283.

M a t e r i a l e x a m i n e d : Nepal, Gorkha Distr., Darondi Khola between Doreni and Motar, open forest/cultivated land, 750-900 m, 13.VIII.1983, leg. J. Martens & W. Schawaller (SMNS).

R e m a r k s : The occurrence is known in Central India and Madras and has now been the first time recorded in Nepal.

Scarites (Distichus) picicornis Dejean

1831 *Scarites picicornis* Dejean, Spec. gen., Paris, 5: 493.

M a t e r i a l e x a m i n e d : India, Darjeeling Distr., Kalimpong, Purbong, 950 m, VI.1982, leg. C.J. Rai (NHMB/CBA).

R e m a r k s : The species has a disjunct distribution. It occurs in Bengal, Bihar, Northwest India, and Sri Lanka, and has been recorded also in East Africa from Abyssinia to Natal and in Senegal.

Scarites (Distichus) rectifrons Bates

1892 *Distichus rectifrons* Bates, Ann. Mus. Civ. Stor. Nat. Genova, 12 (32): 272.

M a t e r i a l e x a m i n e d : Nepal, Kathmandu Valley, Nagarjung, Jamacok, secondary forest, 1400-1600 m, 18.VIII.1983, leg. J. Martens & W. Schawaller (SMNS).

R e m a r k s : *Scarites rectifrons* belongs to a small group of the subgenus which are interestingly characterized by the lack of setigerous punctures on clypeus and the buccal fissure is not prolonged beyond the base of mentum.

This is the first record for Nepal, hithero known from Indochina and Sikkim.

Scarites (Scarites s. str.) trachydermon Andrewes

1936 *Scarites trachydermon* Andrewes, Ann. Mag. Nat. His., (10) 18: 58-59.

M a t e r i a l e x a m i n e d : Nepal, Annapurna, S.E., between Marsyandi- and Begnas-Valley, 1000 m, 03.V.1982, leg. F. Baum (CBA).

R e m a r k s : First record after the description from North of Assam.

Parathlibops wittmeri Casale

1980 *Parathlibops wittmeri* Casale, Ent. Basil., 5: 5-9.

M a t e r i a l e x a m i n e d : India, Darjeeling distr., Pedong, 12.VII.1981, leg. B. Bhakta; E. Nepal, Thamur Valey, Dhankuta-Hile, 1150-2000 m, 24-25.V.1983, leg M. Brancucci; E. Nepal, Koshi, Mutidhunga-Hile, 2200 m, 27.V.1985, leg. M. Brancucci (NHMB/CBA).

R e m a r k s : These are the first records after the description. Occurrence is known so far from West Bhutan, Darjeeling, and East Nepal.

Coryza semirubra Andrewes

1926 *Coryza semirubra* Andrewes, Ent. Month. Mag., 62: 71.

M a t e r i a l e x a m i n e d : Nepal, Marsandi Valley, bank of a brook near Khudi, 1000 m, 01.V.1982, leg. F. Baum (CBS/CBA).

R e m a r k s : The species is known from Uttar Pradesh and Punjab and is here firstly recorded for Nepal. (One of the four examined specimens bears a label "det. A. Casale 1984".)

Clivina attenuata Herbst

1806 *Scarites attenuata* Herbst, Natur. Syst. Ins. Käf., 10: 264;
1813 *Clivina picipes* Bonelli, Mém. Acad. Sci. Turin, 20: 481;
1846 *Clivina melanaria* Putzeys, Mém. Soc. Sci. Liège, 2: 586.

M a t e r i a l e x a m i n e d : India, Darjeeling Distr., Rangpo, 400 m, 10.X.1978, leg. I. Löbl & C. Besuchet (MHNG); Nepal, Trisuli, 570-1200 m, 02.VI.1978, leg. B.C. Bhakta (NHMB/CBA).

R e m a r k s : So far recorded for Indochina and Malaysia, northern parts of India to Iran. According to Kult (1951) the species is distributed in India only.

Clivina sp.

M a t e r i a l e x a m i n e d : Nepal, Dhading Distr., Samrai Banjyang, cultivated landscape, 1000-1300 m, 23.VII.1983, leg. J. Martens & W. Schawaller (SMNS).

R e m a r k s : The single specimen (♀) seems to be *Clivina striata* Putzeys 1846, but I am not able to identify the specimen at this time.

Clivina tranquebarica Bonelli

1813 *Clivina tranquebarica* Bonelli, Mem. Acad. Sci. Turin, 20: 484;
1861 *Clivina cordicollis* Motchulsky, Bull. Soc. Nat. Moscou, 34 (I): 102;
(?) 1861 *Clivina rufipes* Motchulsky, Bull. Soc. Nat. Moscou, 34: (I): 102;
1863 *Clivina foveicollis* Putzeys, Mém. Soc. Roy. Sci., Liège, 18: 61;
1866 *Clivina placida* Putzyes, Ann. Soc. Ent. Belg., X: 134;
1866 *Clivina stigmatica* Putzeys, Ann. Soc. Ent. Belg., X: 134;
1892 *Clivina scuticeps* Bates, Ann. Mus. Civ. Stor. Nat. Genova, 12 (32): 280.

Material examined: India, Uttar Pradesh, Rishikesh, 450 m, VII.1991, leg. K. Werner (CBA).

Remarks: This very common species is found in India, Sri Lanka, Indochina and Malaysia and in parts of Indonesia.

Pseudoclivina assamensis Putzeys

1846 *Clivina assamensis* Putzeys, Mém. Soc. Sci. Liège, 2: 584.

Material examined: India, Uttar Pradesh, Rishikesh, 450 m, VII.1991, leg. K. Werner (CBA).

Remarks: The occurrence is known so far from Assam, Bengal, Bihar, and Orissa to Madras.

Trilophus interpunctatus Putzeys

1866 *Dyschirius hispidulus* Putzeys, Ann. Soc. Ent. Belg., X: 98;
1867 *Dyschirius interpunctatus* Putzeys, Ann. Soc. Ent. Belg., X: 97-98;
1868 *Dyschirius impunctatus* Putzeys, Ann. Soc. Ent. Belg., XI: 10;
1877 *Dyschirius schmidti* Putzeys, Ann. Soc. Ent. Belg. (Compt. Rend.), 20: 16;
1892 *Oxydrepanus birmanicus* Bates, Ann. Mus. Civ. Stor. Nat. Genova, 12 (32): 283;
1926 *Oxydrepanus interpunctatus* Andrewes, Ann. Mag. Nat. Hist., 9 (17): 378;
1927 *Trilopus interpunctatus* Andrewes, Ann. Mag. Nat. Hist., (9) 20: 263-265.

Material examined: India, Assam, Manas, 200 m, 22.X.1978, leg. I. Löbl & C. Besuchet (MHNG); Darjeeling Distr., Teesta and Singla, 250-300 m, 10/17.X.1978, leg. I. Löbl & A. Smetana (MHNG); Kaziranga, 75 m, 07-09.V.1976, leg. W. Wittmer & C. Baroni (NHMB/CBA); Nepal, Dhading Distr., Samari Banjyang, cultivated land, 1000-1300 m, 23.VII.1983, leg. J. Martens & W. Schawaller (SMNS); Kathmandu, Gokaruaban, 12.IV.1976, leg. W. Wittmer & C. Baroni (NHMB/CBA); Kathmandu Distr., Gokarna Forest and Godwari, 1300-1600 m, 31.III.1981, 20.X.1983 and 31.X.1984, all leg. I. Löbl & A. Smetana (MHNG); Bagmati, Nagarjun forest near Kathmandu, 1650 m, 02.IV.1981, Burlang, Bhanjyang, 2600 m, 05.IV.1981, below Tarke Ghyang, 2600 m, 25.IV.1981, Malemchi Khola near Malemchi, 2100m, 15.IV.1981,all leg. I. Löbl & A. Smetana (MHNG); Terhathum Distr., Nessum, cultivated land with trees, 1750 m, 16.IX.1983, leg. J. Martens & Daams, (SMNS); India, Uttar Pradesh, Kumaon, Bhim Valey, 1500 and 1800 m, 04.X.1979, leg. I. Löbl & A. Smetana (MHNG); Pakistan, Punjab, Rawalpindi lake, 03. and 24.IV.1986, leg. S. Vit (MHNG); Chitral, Madaglasht, 2700 m, 26.V.1986, Chitral, Kalas, 1900 m, 28.V.1983, all leg. I. Löbl & C. Besuchet (MHNG); Swat, Marghuzar, 1300 m, 08.V.1983, leg. I. Löbl & C. Besuchet (MHNG); Dir, Dir, 1500 m, 20.V.1983, leg. I. Löbl & C. Besuchet (MHNG).

Remarks: The genus is widely distributed from North of Pakistan to Java. Andrewes (1927, 1929) recognizes only one species and distinguishes four varieties

which should be distributed in different but neighbouring regions. What kind of status these varieties do have taxonomically has to be investigated.

Dyschirius speculifer Andrewes

1929 *Dyschirius speculifer* Andrewes, Fauna Brit. Ind., Col.: Carab., I: 403-405.

Material examined: India, Assam, Gauhati, 200 m, 24.X.1978, leg. I. Löbl, & C. Besuchet (MHNG).

Remarks: Distributed in Bengal and Northwest India.

Dyschirius variabilis Andrewes

1929 *Dyschirius variabilis* Andrewes, Fauna Brit. Ind. Col.: Carab., I: 405-406.

Material examined: Nepal, Annapurna S.W., near Gandrung, 2000 m, 14.IV.1982, leg. F. Baum (CBS/CBA).

Remarks: Distributed in Bengal and Northwest India, and now found in Nepal also.

Dyschirius constrictus Andrewes

1929 *Dyschirius constrictus* Andrewes, Fauna Brit. Ind., Col.: Carab., I: 408-409.

Material examined: India, Assam, Kaziranga, 75 m, 07-09.V.1975, leg. W. Wittmer & C. Baroni (NHMB/CBA); Gauhati, 200 m, 24.X.1978, leg. I. Löbl & C. Besuchet (MHNG/CBA); E. Nepal, Kosi Pagma, 1700 m, 04.IV.1984, leg. I. Löbl & A. Smetana (MHNG); Nepal, Gorkha Distr., Darondi Khola, between Naya and Gorkha, brook valley, 1200 m, 14.VIII.1983, leg. J. Martens & W. Schawaller (SMNS); Ilam Distr., 5 km N. Sanishare, feet of Siwalik Mts., mixed Shorea forest, 270-300 m, 03-05.IV.1988, leg. J. Martens & W. Schawaller (SMNS/CBA).

Remarks: Distributed in Assam, Bengal, Bihar, and in Northwest India.

Dyschirius sonamargensis spec. nov. (Figs 9, 10)

Type material: Holotype: ♂, Kashmir, Sonamarg, 17.VII.1976, 2600-2750 m, leg. W. Wittmer, (NHMB).

Paratypes: 1 ♂, 1 ♀, same data as holotype (♀ NHMB; ♂ CBA).

DESCRIPTION:

Measurements: Length 2.45-2.75 mm, width 0.70-0.75 mm, ratio length/width of pronotum 0.91-0.96, ratio length/width of elytra 1.58-1.61.

Colour: Head, pronotum, elytra, and ventral surface dark brown, ferrugineous, shiny. Mouthparts, four posterior legs, and two basal segments of antennae testaceous. Clypeus, frons, anterior parts of antennae, anterior legs, and basis of elytra middle brown.

H e a d : Anterior margin of clypeus without median tooth, truncate, very finely bordered, separated from frons by deep, nearly straight transversal suture. Clypeal field trapezoidal, ascending evenly from anterior clypeal margin and falling in last quarter to transversal suture. Frons moderately convex, with scattered, minutely sticked punctures. Supraantennal plates convex, bordered indistinct laterally. Frontal furrows as deep as transversal suture. Neck constriction absent, two diverged longitudinal sulci posterior eyes. Eyes developed regularly for genus.

P r o n o t u m : Subglobose. Third wider than head, little wider than long, maximum width at middle. Sides evenly rounded from anterior angles to posterior setigerous puncture. Lateral margin complete, reaching posterior setigerous puncture, more indistinct in posterior half. Median line visible throughout, very fine at middle, deeper in posterior third. Disk with irregular very finely sticked punctures and few fine cross wrinkles laterally. Anterior transverse line deep, joining median line. Proepisternum impunctate.

E l y t r o n : Anterior third flattened, evenly convex in posterior two-thirds. Oval, evenly rounded from humerus to apical setigerous punctures. Base margined, basal granula absent. Humerus distinct (angle 130°). Basal setigerous puncture absent. Three subhumeral and two preapical setigerous punctures. Striae 1 to 6 deep, first curves slight medially at base; stria 7 striate-punctate, 8 reduced to 5-6 fine punctures at middle of elytron; all striae shallower in posterior third, 1st reaching apex, all other disappearing to end of third quarter. Punctures of striae arranged more regularly. Two discal setigerous punctures, situated in middle of interval 3 (holotype), second puncture approching 2nd stria (paratypes). Posterior setigerous puncture absent. Intervals moderately convex, flattered in apical half.

A l a : Macropterous.

P r o t i b i a : Lateral upper spine turned strongly ventral, movable spur one fourth shorter than spine. Preapical lateral denticle sharp and well developed, 2nd intimated but well visible.

A e d e a g u s (Fig. 10). Short, stronger arcuate at basal half, apex widely explanate. Right paramere twisted, one long seta at apex.

D e r i v a t i o n o f n a m e : After the village Sonamarg, 30 miles NE Srinagar in Kashmir, where the types had been found.

R e m a r k s : *Dyschirius sonamargensis* spec. nov. is next related to *D. ladakensis* Andrewes 1929 and has similarities to *D. minutus* Dejean 1825 (syn. *D. punctatus* Dejean 1825, nec PUTZEYS 1867 as indicated in MÜLLER, 1922 p. 47). It differs from *D. ladakensis* in having a deep and nearly straight transverse suture of chypeus, in the lack of the third (posterior) setigerous puncture of elytron and in its smaller size. Unlike *D. sonamargensis*, *D. ladakensis* shows the following most striking characters. The pronotum ist widest at basal third, the median line of pronotum passes through the anterior transverse line without joining it and is prolonged anteriorly, the elytra have parallel sides and are not margined at base, and there is only one preapical setigerous puncture present. *D. minutus* as well as its subspecies *albanicus* Müller 1922 is distinct from *D. sonamargensis* in its more elongate head, pronotum, and elytron, which causes its bigger size also. In *D. minutus*

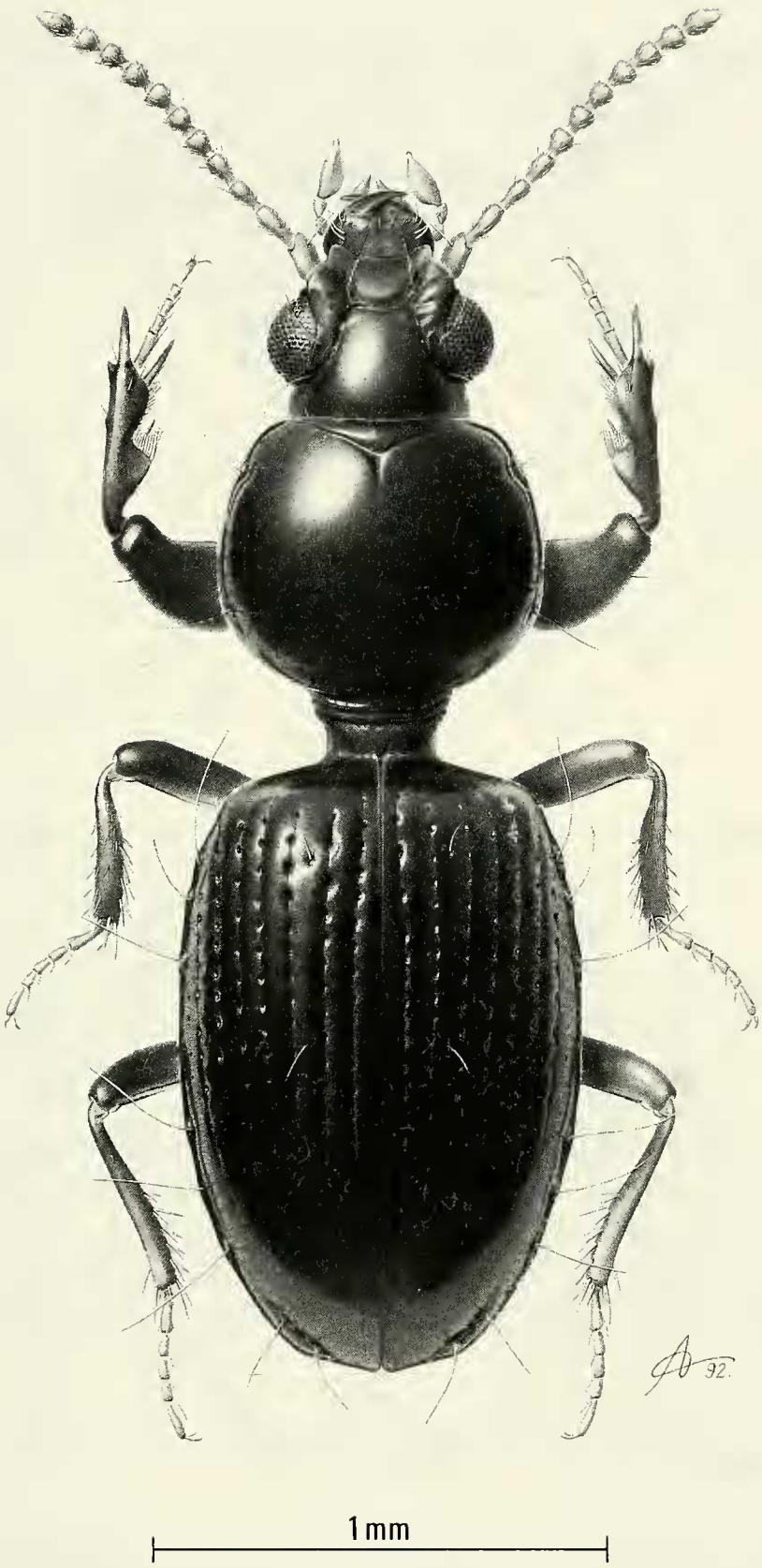
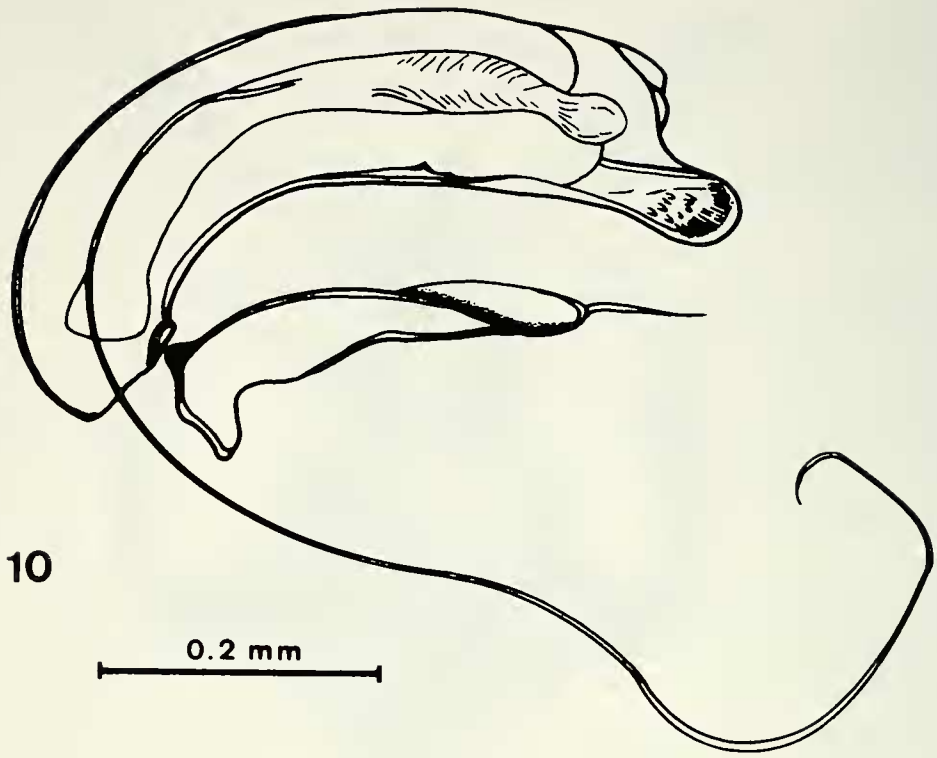


FIG. 9

Dyschirius sonamargensis spec. nov., holotype ♂, habitus.



FIGS 10

Dyschirius sonamargensis spec. nov. holotype, aedeagus with right paramere, left lateral view.

the transversal suture of head is not deep, the median line of pronotum is more distinct, the base of elytron is unmargined, respectively a weak margin is suggested only in some specimens, the humerus is more slanting, and the punctures of striae of elytron are not as dense as in *D. sonamargensis*.

D. ladakensis is only known from the type locality (Ladakh, Kashmir / ANDREWES 1929), which is located northeast of Sonamarg on the other side of the main Himalayan chain. Because of the very different ecological conditions on both slopes it may be suggested that both sepcies are separated by the high mountain chain. *D. minutus* is a palaearctic species, occurring in the Northern Mediterranean area (MÜLLER 1922).

Dyschirius disjunctus Andrewes

1929 *Dyschirius disjunctus* Andrewes, Fauna Brit. Ind., Col.: Carab., I: 411-412.

M a t e r i a l e x a m i n e d : Nepal, Dahding Distr., Gorkha, Buri Gandaki, between Jagat and Pangshing, cultivated land, 1300-1650 m, 31.VII.1983, leg. J. Martens & W. Schawaller (SMNS).

R e m a r k s : Distributed in Bengal and in Northwest India.

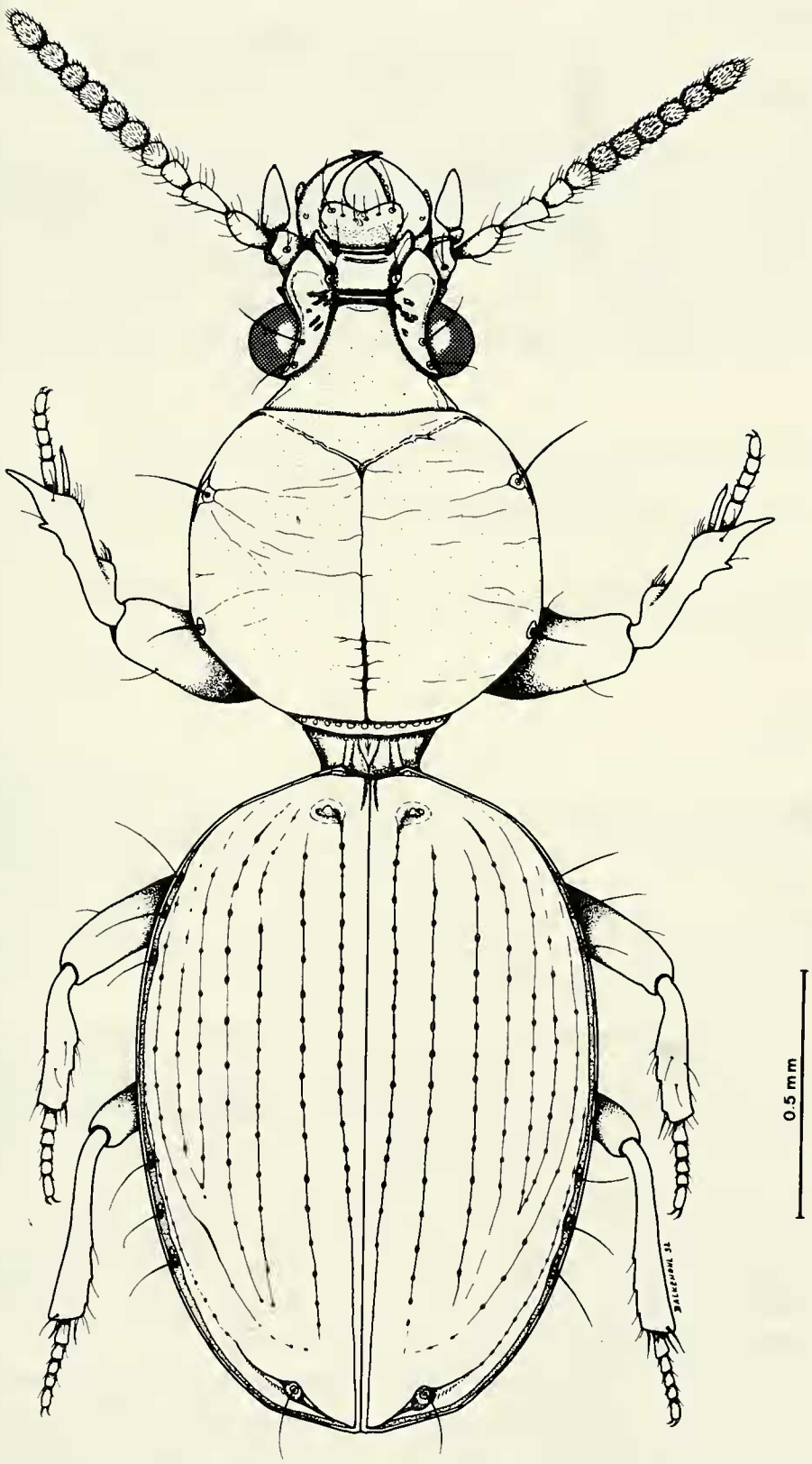


FIG. 11

Dyschirius (Reicheiodes) convexipennis spec. nov., holotype ♂, habitus.

Dyschirius nov. spec.

Material examined: India, Assam, Manas, 200 m, 23.X.1978, leg. I. Löbl (SMNS).

Remarks: The unmargined pronotum of this single specimen (♂) is conspicuously punctate and without transverse impression. The head has four ridges which meet at middle. Therefore this species can be placed near to *Dyschirius porosus* Putzeys 1877. Like in *D. porosus* it can be stated that "the unusual characters detailed above indicate that a new genus will probably be required here" (ANDREWES 1929). The types of *D. porosus* are not available. Therefore a description is omitted.

Dyschirus (Reicheiodes) convexipennis spec. nov. (Figs 11, 12).

Type material: Holotype: ♂, Nepal, Panchthar Distr., Dhorpar Kharka, mature *Rhododendron-Lithocarpus* forest, 2700 m, 13-16.IV.1988, leg. J. Martens & W. Schawaller", (SMNS).

Paratype: 1 ♂, India, W. Bengal, Darjeeling Distr., Tonglu, 2700 m, 16.X.1978, leg I. Löbl & C. Besuchet (MHNG).

DESCRIPTION

Measurements: Length 2.55-2.60 mm (including mandibles), width 0.95 mm, ratio length/width of pronotum 0.95, ratio length/width of elytra 1.41.

Colour: Elytra dark brown, strongly shiny, apex slightly lighter. Pronotum piceous, shiny. Clypeus, supraantennal plates, mouthparts, first four segments of antennae, and legs fuscuous. Frons, anterior segments of antennae, and anterior legs darker. Ventral surface dark brown.

Head: A third smaller than pronotum. Anterior margin of clypeus without median tooth, bordered finely. Clypeal field square, convex, with fine carina anteriorly, separated from frons by deep straight transverse suture (paratype), suture interrupted transversally by very fine carina, thought suture seems doubled (holotype). Frons evenly convex, with scattered, finely sticked punctures over whole surface. Supra-antennal plates vaulted, with some rugae and longitudinal punctures at eye level. Frontal furrows deep, brought anteriorly to transverse suture. Neck constriction absent, few longitudinal sulci posterior eyes. Antennae medium sized, reaching posterior setigerous punctures of pronotum. Eyes well developed.

Pronotum: Strikingly depressed for genus in anterior two-thirds, convex in posterior third only. Nearly as long as wide, maximum width at middle. Lateral border barely rounded between setigerous punctures, strongly rounded from anterior setigerous punctures to anterior angles, almost straightly narrowed from posterior setigerous punctures to base. Lateral margin inconspicuous, visible at level of anterior setigerous puncture only, and shortly before and in anterior angles. Median line complete, very fine at middle, deeper at posterior third. Anterior transverse line broad, subcrenulate, joining median line and lateral margin in anterior angles. Surface with

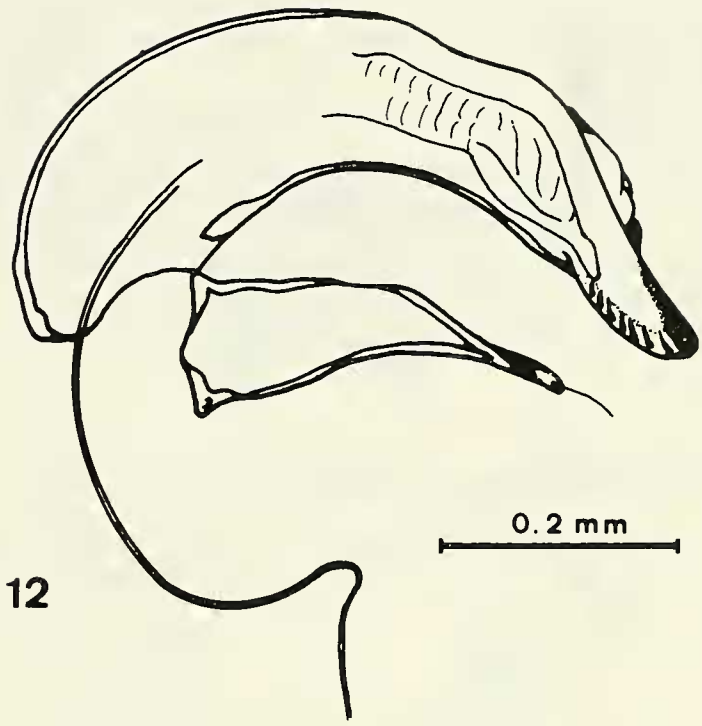


FIG. 12

Dyschirius (Reicheiodes) convexipennis spec. nov., holotype, aedeagus with right paramere, left lateral view.

some transverse wrinkles and scattered, finely sticked punctures. Proepisternum impunctate.

E l y t r o n : Lateral view intensively ovate, strongly falling to base. Outline evenly oval, maximum width at middle. Evenly margined from pedunculus to apical setigerous puncture. Humerus invisible. Basal granula absent. Basal setigerous puncture evident, situated between projected extension of 1st and 2nd stria. Three subhumeral and three umbilical setigerous punctures, one evidently developed preapical setigerous pore situated in prominent furrow of 8th stria. Dorsal punctures absent. Short but conspicuous longitudinal scutellar stria-like impression at steep declivity, close to suture. First stria deep, adjoining basal setigerous puncture, reaching apex. Punctures of first 3 rows formed as striae due to more-or-less distinct impressions, other striae appearing as rows of slightly connected punctures, striae fade to apex but visible completely. Arrangement of punctures somewhat irregular. Stria 2 and 7, 3 and 4, 5 and 6 adjoining more or less in posterior third of elytron. Striae not reaching base with exception of 5th. Invervals slightly convex, flattened at apex.

A l a : Atrophied.

P r o t i b i a : Lateral upper spine turned very slightly lateral and moderately ventral. Movable spur very slightly curved, as long as lateral spine. Preapical lateral denticle well developed, 2nd much smaller, not sharp but clearly visible.

Aedeagus (Fig. 12): Short, moderately arcuate, narrowing in apical half, apex asymmetrically spatulate. Rights paramere broad at base, twisted shortly before apex, one fine apical seta.

Habitat: The specimens were extracted from litter at an altitude of 2700 m; the holotype in a primary *Rhododendron-Lithocarpus* forest with solitary *Magnolia* and *Tsuga* in April, and the paratype in a *Quercus semecarpifolia* forest in October.

Derivation of name: The name is derived from the extremely convex raised elytra which is mostly conspicuous in lateral view.

Remarks: See remarks of *Dyschirius marginicollis* spec. nov.

Dyschirius (Reicheiodes) loebli spec. nov. (Figs 13, 14)

Type material: Holotype: ♂, Nepal, Prov. Bagmati, Yardang Ridge NE Barahbise, 3250 m, 05.V.1981, leg. I. Löbl & A. Smetana (MHNG).

Description

Measurements: Length 2.50 mm, width 0.88 mm, ratio length/width of pronotum 0.99, ratio length/width of elytra 1.61.

Colour: Pronotum and elytra dark brown, shiny; paler at margin and apex of elytra; frons fuscus; clypeus supraantennal plates, and mouthparts paler; first segments of antennae fulvus ventrally and darker dorsally; legs and epipleura testaceus; ventral surface dark brown.

Head: A third smaller than pronotum. Anterior margin of clypeus without median tooth, conspicuously bordered. Clypeal field square, convex, separated from frons by deep, broad, and straight transverse suture. Frons convex, with second weak transverse suture, invisible at middle, with few scattered, very minutely sticked punctures over surface of frons. Supraantennal plates vaulted, with carina on eye level and suture on level of anterior supraorbital seta, bordered weekly laterally. Frontal furrows deep, diverging anteriorly and posteriorly of transverse suture. Neck constriction absent, few flat longitudinal rugae posterior eyes. Antennae just reaching posterior setigerous punctures of pronotum. Eyes well developed.

Pronotum: Evenly convex. Outline subcircular, as slong as wide, maximum width at middle. Lateral border evenly rounded, reflexed margin complete, prolonged over posterior setigerous puncture. Lateral channel deep, moderately broad. Median line complete, indistinct at middle, deeper and broader at posterior fourth. Anterior transverse line distinct, joining median line, not joining lateral margin at extremity. Surface with fine transverse wrinkles and scattered, minutely sticked punctures. Proepisternum impunctate.

Elytron: More flat but evenly convex from base to apex. Outline oblong-oval, maximum width at middle, margined from pedunculus to apex. Humerus very slightly suggested at level of subhumeral setigerous puncture. Basal granula absent. Basal setigerous puncture isolated, situated between projected extension of 1st and 2nd stria. One subhumeral setigerous puncture, two umbilical setigerous punctures

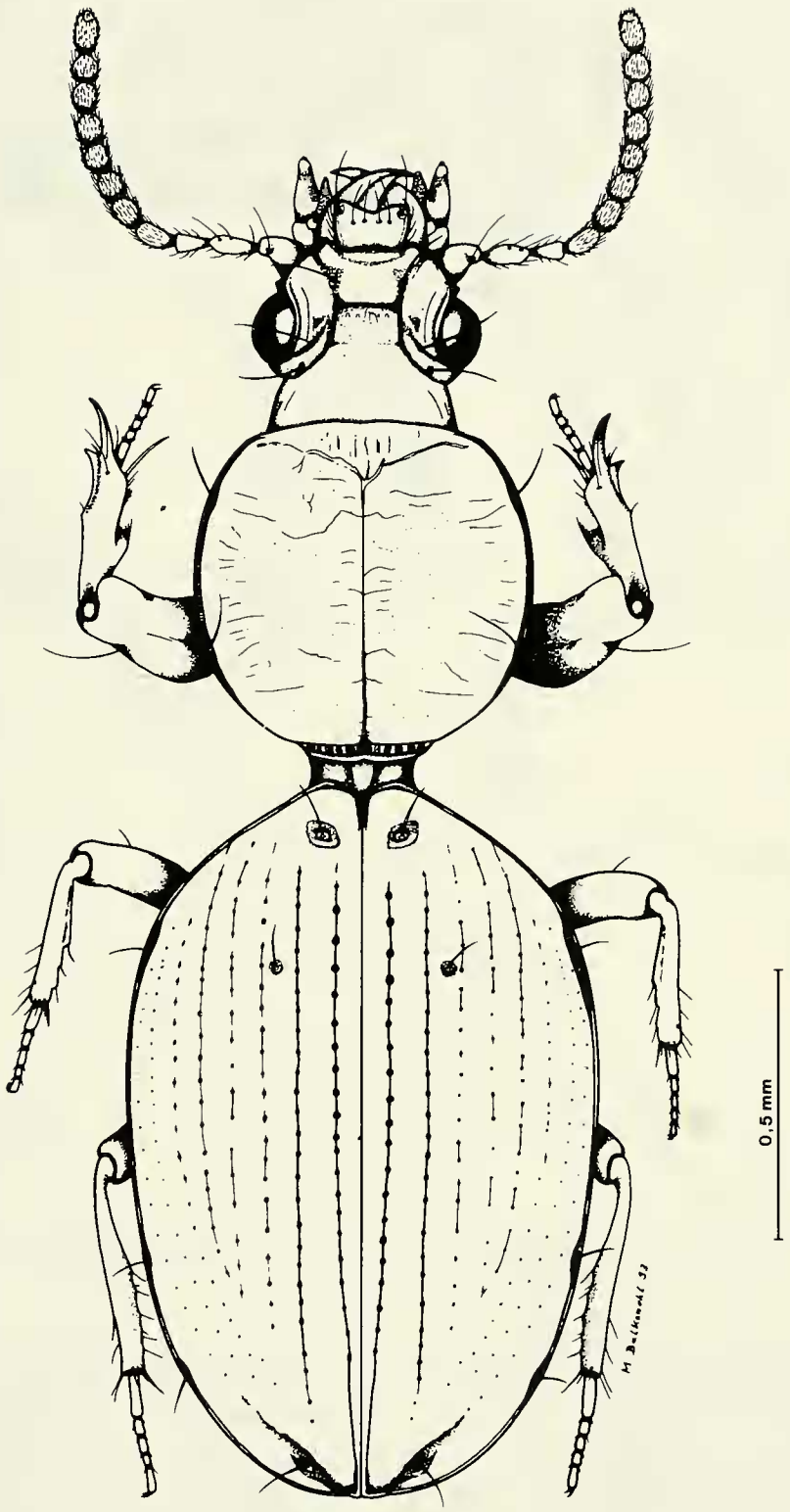


FIG. 13

Dyschirius (Reicheiodes) loebli spec, nov., holotype ♂, habitus.

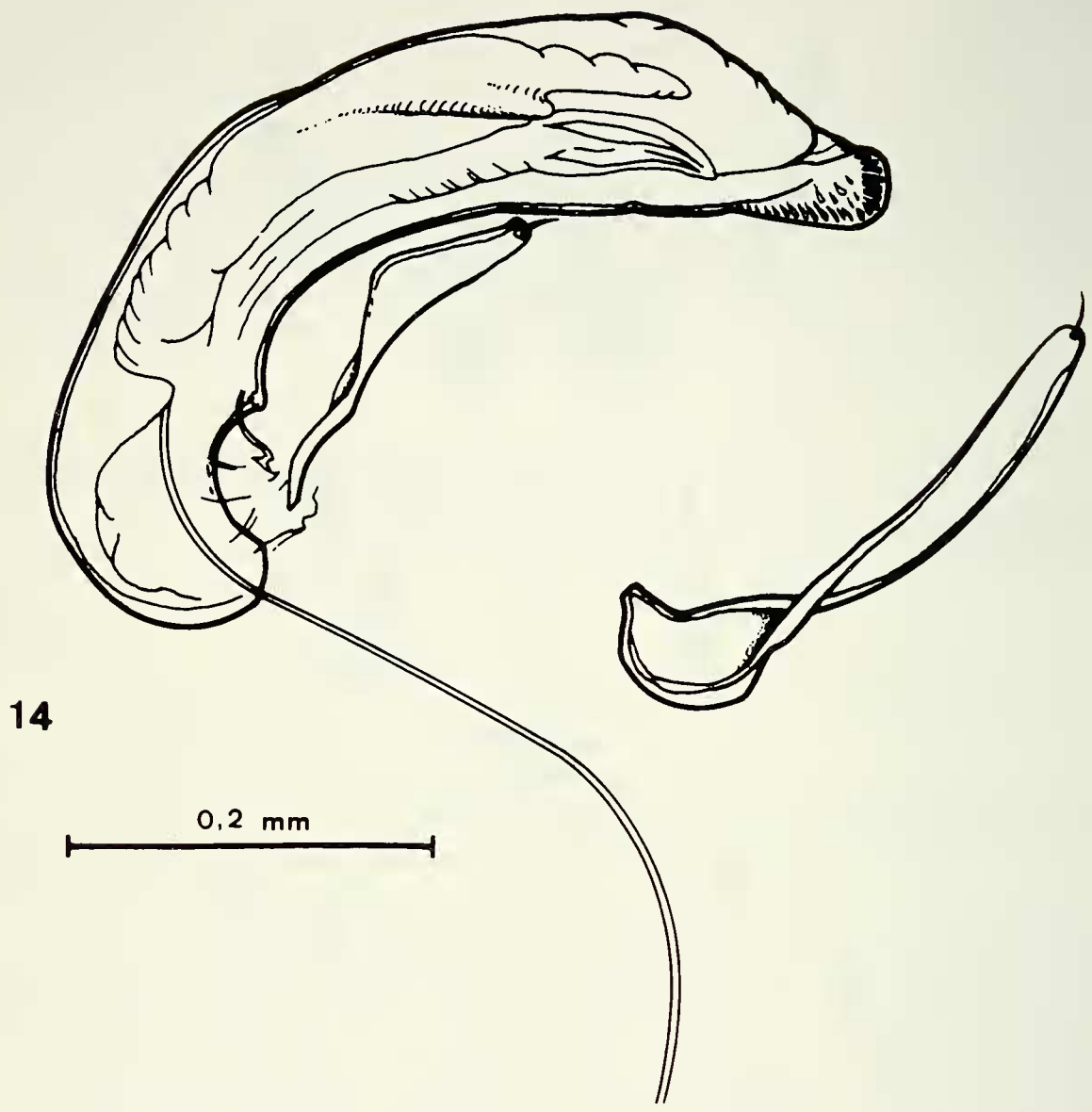


FIG. 14

Dyschirius (Reicheiodes) loebli spec. nov., holotype, aedeagus with parameres, left lateral view.

near epex, one preapical setigerous puncture situated in furrow of 8th stria, one (anterior) dorsal puncture. Short longitudinal impression at base close to suture. Stria 1 deep, 2nd stria fairly deep, both punctate, other striae developed as rows of punctures, punctures of 3rd to 6th stria partly connected by slight impressions; striae 2 to 7 fade to apex, completely, 3 and 6, 4 and 5 adjoining more or less in posterior third of elytron. Stria 1 and 8 adjoining conspicuously at apex. Striae not reaching base with exception of 5th. Invervals 1 to 3 not as flatened as others. Arrangement of punctures somewhat irregular.

A l a : Atrophied.

P r o t i b i a : Lateral upper spine curved moderately lateral and ventral. Movable spur nearly straight, as long as lateral spine. Preapical lateral denticle conspicuously sharp, 2nd scarcely developed.

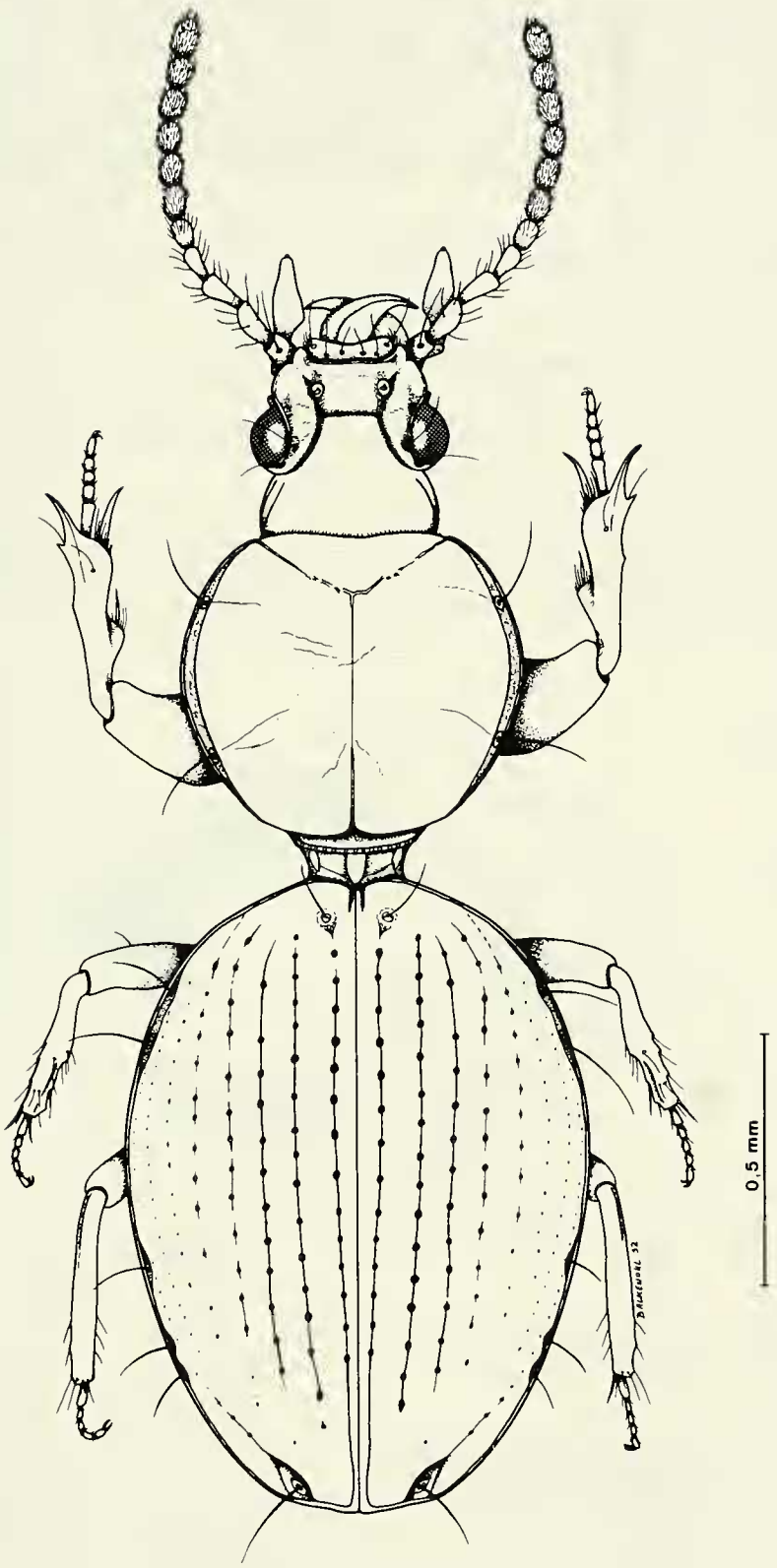


FIG. 15

Dyschirius (Reicheiodes) marginicollis spec. nov., holotype ♂, habitus.

A e d e a g u s (Fig. 14): Short, moderately arcuate, not narrowed in apical half, apex explanate. Right paramere twisted at basal third, one apical seta.

H a b i t a t : The specimen was sifted in humid leaf litter in an *Abies-Rhododendron* forest in May. Altitude 3250 m.

D e r i v a t i o n o f n a m e : The species is dedicated to Dr. Ivan Löbl, who found three new *Reicheiodes* species in the Himalayas by applying intensive sifting methods.

R e m a r k s : See remarks of *Dyschirus marginicollis* spec. nov.

Dyschirius (Reicheiodes) marginicollis spec. nov. (Figs 15, 16)

T y p e m a t e r i a l : Holotype: ♂, Nepal, Patan Distr., Phulcoki, 2600-2700 m, 15.X.1983, leg. I. Löbl & A. Smetana (MHNG).

Paratypes: 1 ♂, same data as holotype, but 2650 m; 1 ♀, same data as holotype; 1 ♀, same data as holotype but 2600 m, 16.X.1983, 1 ♀, same data as holotype but 2550 m, 17.X.1983. 1 ♀, Nepal, Kathmandu Distr., Phulcoki, 2500 m, 28-29.IV.1984; 1 ♀, Siwapuri Dara, 2400 m, 30.IV.1985; all leg. I. Löbl & A. Smetana (MHNG and CBA).

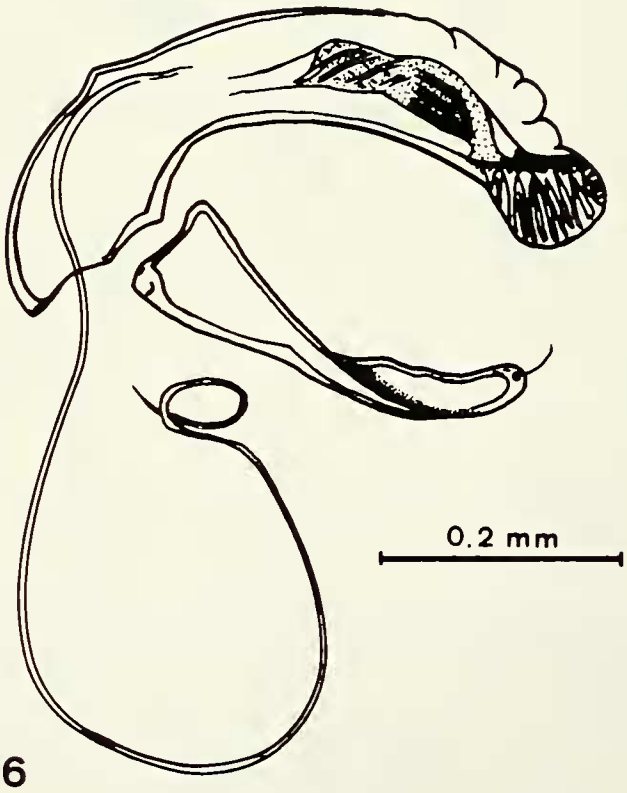


FIG. 16

Dyschirius (Reichiodes) marginicollis spec. nov., holotype, aedeagus with right paramere, left lateral view.

Description

M e a s u r e m e n t s : Length 2.35-2.50 mm ($\bar{x}$ = 2.45 mm*; including mandibles), width 0.91-0.97 mm ($\bar{x}$ = 0.94 mm*), ratio length/width of pronotum 0.92 - 0.96 ($\bar{x}$ = 0.94*), ratio length/width of elytra 1.35-1.44 ($\bar{x}$ = 1.39*); (*n = 6).

C o l o u r : Fuscuous, shiny; mouthparts, clypeus, three posterior segments of antennae, and legs paler.

H e a d : More than a third smaller than pronotum. Anterior margin of clypeus without median tooth, bordered. Clypeal field square, convex, separated from frons by deep, broad, and straight transverse suture. Frons evenly convex, with scattered, minutely sticked punctures. Supraantennal plates vaulted, some fine rugae at eye level. Frontal furrows deep, broad. Neck constriction absent, few fine longitudinal sulci posterior eyes. Antennae not reaching posterior setigerous punctures of pronotum. Eyes well developed.

P r o n o t u m : Evenly convex. Outline subcircular, little wider than long, maximum width at end of anterior third. Lateral border evenly rounded, reflexed margin reaching from anterior angles nearly up to base. Lateral channel deep, conspicuously broad, narrowed from anterior setigerous puncture to anterior angles and from posterior setigerous puncture up to end of margin. Median line complete, distinct, deeper and broader at posterior fourth. Anterior transverse line distinct, not deep, joining median line and lateral margin. Surface with few fine transverse wrinkles and scattered, minutely sticked punctures. Proepisternum impunctate.

E l y t r o n : Conspicuously convex from base to apex. Outline evenly oval, maximum width before middle, margined from pedunculus to apex. Humerus nearly invisible. Basal granula absent. Basal setigerous puncture situated in projected extension of 1st stria. Two subhumeral and three umbilical setigerous punctures, one preapical setigerous puncture situated in furrow of 8th stria, dorsal punctures absent. Short and conspicuous scutellar stria-like longitudinal impression at base close to suture. Stria 1 to 3 fairly deep, punctate, other striae developed as rows of punctures, 4th and 5th partly connected by slight impressions; striae disappearing in apical fourth. Stria 1 and 8 adjoining at apex. Striae not reaching base with exception of 5th. Arrangement of punctures somewhat irregular. Intervals 1 to 3 not as flatened as others.

A l a : Atrophied.

P r o t i b i a : Lateral upper spine turned moderately lateral and ventral. Movable spur curved slightly mesial at apex. Preapical lateral denticle sharp, 2nd much smaller, not sharp but clearly visible.

A e d e a g u s (Fig. 16): Short, moderately arcuate, not narrowed in apical half, apex widely explanate. Right paramere twisted at middle, one fine apical seta.

H a b i t a t : The specimens were sifted in humid leaf litter in a *Quercus semecarpifolia* forest in April and October. Attitude 2500-2700 m.

D e r i v a t i o n o f n a m e : The name is derived from the margin of pronotum which is very broad and prolonged nearly up to base.

R e m a r k s : The three species, *Dyschirius convexipennis* spec. nov., *D. loebli* spec. nov., and *D. marginicollis* spec. nov. are assigned to the subgenus *Reicheiodes*

Ganglbauer 1892. Members of *Reicheiodes* are restricted to mountain environments and inhabiting the Sierra de Gerez and Sierra de Marao (North of Portugal), parts of the Alps, Croatia, and Caucasus and were hithero unknown from the Himalayas. The described Himalayan species can be distinguished from other species of that subgenus by the short basal longitudinal impression of elytron, by the 5th stria of elytron which reaches up to base, and by characters of their pronotum. These characters probably point to an own phylogenetic unit. In *D. convexipennis* the lateral margin of pronotum is inconspicuous and developed in the anterior angles and at the level of the anterior setigerous puncture only. In *D. loebli* and *D. marginicollis* the lateral margin is broad and conspicuously deep and is prolonged strikingly over the posterior setigerous puncture. In other species of this subgenus the lateral margin of pronotum reaches to the posterior setigerous puncture homogeneously, is narrow, and not deep.

As in other members of the subgenus *Reicheiodes* the three new species bear fine and very short pili on the whole elytra, situated in each puncture of stria (much more finer and shorter than the setae of dorsal punctures). These pili, which are visible under yellow light against a dark background, and the evenly oval outline of elytra can not be found in other known members of the genus *Dyschirius*. Therefore the subgenus may have the status of a genus of its own which has to be investigated in detail.

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